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## FUNDAMENTALS OF MEDICAL PREVENTION IN PRACTICE OF A FAMILY DOCTOR

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Abstract. The article analyzes in detail the definitions of the concepts of «prophylaxis», «disease prevention», «types of prevention» and specifies the priority of prevention in the field of the public health as the main principle of health protection of the citizens of Ukraine. The application of this knowledge in practice seems to be one of the key points contributing to the implementation of the public health policy in the field of health strengthening. This implies both increasing of the knowledge level of specialists in this field, and the skills of using this knowledge in practice, in particular, to increase patient awareness in the field of combating risk factors for the chronic noncommunicable diseases' occurrence.

#### Key words:

medical prevention, levels of prevention, types of prevention, family medicine, quality criteria for prevention, healthy lifestyle.

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## ОСНОВИ МЕДИЧНОЇ ПРОФІЛАКТИКИ У ПРАКТИЦІ СІМЕЙНОГО ЛІКАРЯ

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Резюме. У статті докладно проаналізовано визначення поняттям «профілактика», «профілактика захворювань», «види профілактики» і конкретизований пріоритет профілактики у сфері охорони здоров'я як основний принцип охорони здоров'я громадян України. Застосування цих знань у практичній діяльності представляється одним з ключових моментів, що сприяють реалізації політики системи охорони здоров'я у сфері зміцнення громадського здоров'я. Це передбачає як підвищення рівня знань фахівців у цій сфері, так і навички використання цих знань на практиці, зокрема для підвищення рівня інформованості пацієнтів в області боротьби з факторами ризику виникнення хронічних неінфекційних захворювань.

## ОСНОВЫ МЕДИЦИНСКОЙ ПРОФИЛАКТИКИ В ПРАКТИКЕ СЕМЕЙНОГО ДОКТОРА

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Резюме. В статье подробно проанализировано определения понятий «профилактика», «профилактика заболеваний», «виды профилактики» и конкретизирован приоритет профилактики в сфере охраны здоровья как основной принцип охраны здоровья граждан Украины. Применения этих знаний в практической деятельности представляется одним из ключевых моментов, способствующих реализации политики системы здравоохранения в сфере укрепления общественного здоровья. Это предполагает как повышение уровня знаний специалистов в данной сфере, так и навыки использования этих знаний на практике, в частности для повышения уровня информированности пациентов в области борьбы с факторами риска возникновения хронических неинфекционных заболеваний.

#### Ключові слова:

медична профілактика, рівні профілактики, види профілактики, сімейна медицина, критерії якості профілактики, здоровий спосіб життя.

Клінічна та експериментальна патологія. 2020. Т.19, №1(71). С.133-138.

### Ключевые слова:

медицинская профилактика, уровни профилактики, виды профилактики, семейная медицина, критерии качества профилактики, здоровый образ жизни.

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The specific content of the prevention concept has many meanings, used to denote different directions of policy, social, collective and individual activity and several types of medical activity. Nevertheless, the specific objective content of this concept is always action – the ability to promote or impede the implementation of one or another public health trend that interests us.

Thus, the general content of the «prevention» concept can be reduced to activities by which it is possible to maintain and improve individual, group or public health. We can say that this is a set of measures aimed at preventing people from diseases' development, their exacerbations, socio-psychological and personal maladaptation [3,8,12,18,25].

Disease prevention is a system of medical and non-Клінічна та експериментальна патологія. 2020. Т.19, №1(71) medical measures aimed at preventing, reducing the risk of developing deviations in the state of health and disease, preventing or slowing their progression, and reducing their adverse effects.

Medical prophylaxis is a system of preventive measures implemented through the healthcare system.

Prevention is a system of state, social, hygienic and medical measures aimed at ensuring a high level of health and preventing disease.

Preventive measures will only be effective if they are carried out at all levels: state, labor collective, family, individual

The state level of prevention is ensured by the measures to improve the population' living and cultural standards, legislative measures regulating the protection

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of public health, the participation of all ministries and departments, public organizations in creating optimal living conditions from the standpoint of health through the full use of the scientific and technological progress achievement.

Preventive measures on the level of the labor collective include measures to ensure sanitary and hygienic control of production conditions, hygiene of the home, trade and public catering, creation of a rational conditions of work, rest, a favorable psychological climate and relationships in the team, and sanitary-hygienic education.

Prevention in the family is inseparably linked with individual prevention and is a determining condition for the formation of a healthy lifestyle, it is designed to provide a high hygienic level of housing, a balanced diet, good rest, physical education and sports, creating conditions that exclude the appearance of bad habits.

## Medical prophylaxis in relation to the population is defined as:

- 1) individual preventive measures, carried out with individual persons. Individual medical prophylaxis personal hygiene scientific and practical medical activity for the study, development and implementation in everyday individual life of hygienic knowledge, requirements and principles of maintaining and strengthening health. This concept is also used to determine the conformity of the human life to medical and hygienic standards and medical recommendations conscious active hygienic behavior;
- 2) group preventive measures carried out, in groups of people with similar symptoms and risk factors (target groups);
- 3) population (mass) preventive measures, covering large groups of the population (population) or the entire population as a whole. The population level of prevention, as a rule, is not limited to medical measures these are local prevention programs or mass campaigns aimed at improving health and preventing diseases.

However, the medical-ecological systematicity emphasizes the convention of dividing prevention into socio-economic and medical measures and into social and individual ones. All of its numerous components are interconnected by social relations and are revealed in the public health policy [1,7,11,14,20].

State medical prophylaxis, preventive (protective, social, public) medicine is the scientific and practical medical activity to study the prevalence of diseases, disabilities, causes of death in society in order to justify socio-economic, legal, administrative, hygienic and other areas and preventive measures, medical events.

## Reasons requiring enhanced prevention at the present stage:

- 1) the type of pathology changes: from epidemic (infection) to non-epidemic;
- 2) an adverse clinical course of viral pathology is noted;
- 3) unfavorable trends in the dynamics of demographic processes;
- 4) the physical and neuropsychic health of the population is deteriorating (especially children's);
  - 5) increased environmental aggressivenes.
- In preventive medicine, the idea of the prevention ISSN 1727-4338 https://www.bsmu.edu.ua

stages is introduced, which is based on modern epidemiological views on the causality of human diseases. The subjects of the application of preventive measures and impacts are the different stages of the disease development, including various preclinical conditions, and the objects are individuals, groups of individuals, individual populations and the population as a whole [2,6,10,15].

In those cases where preventive measures are aimed at eliminating the cause (original cause, etiological factor, disease etiology) and/or weakening of the action of pathogenetic risk factors for the development of the incidence that has not yet occurred (the chain of epidemiological causes of the disease), the question is about primary prevention. In modern epidemiology, primary prophylaxis is divided into preexposure prophylaxis and primary specific [1,4,11,13,21].

Preexposure prophylaxis is a set of measures aimed at preventing risk factors for the occurrence of diseases associated with unfavorable conditions of life, the environment and working conditions, mode of life.

Primary prevention is a complex of medical and nonmedical measures aimed at preventing the development of deviations in the state of health and diseases, eliminating their causes common to the entire population, its individual groups and individuals.

The purpose of primary prevention is to reduce the frequency of new cases (incidence) of a disease by controlling its causes, epidemiological conditions, and risk factors.

#### **Primary prevention includes:**

- 1. Conducting environmental and sanitary-hygienic screening and taking measures to reduce the influence of harmful factors on the human body (improving the quality of atmospheric air, drinking water, the structure and quality of nutrition, working conditions, everyday life and rest, the level of psychosocial stress and other factors affecting the quality of life).
- 2. The formation of the healthy mode of life, including:
- -the creation of a permanent information and propaganda system aimed at increasing the level of knowledge of all categories of the population about the influence of negative factors and the possibilities of reducing it;
  - -hygienic education;
- -lowering in the spread of smoking and tobacco consumption, reduction in alcohol consumption, prevention of the drug addiction;
- -attracting the population to the physical education, tourism and sports, increasing the availability of these types of rehabilitation.
- 3. Measures to prevent the development of somatic and mental diseases and injuries, including professionally caused, accidents, disability and mortality from unnatural causes, road accident injuries, etc.
- 4. The implementation of medical screening in order to reduce the impact of risk factors and early detection and prevention of diseases of various target populations by conducting preventive medical examinations:
- -preliminary when applying for a job or entering an educational institution;

-at registration and conscription;

-recurrent – for giving employment control, associated with exposure to harmful and dangerous production factors, or with increased danger to others;

-examinations of decreed contingents (catering, trade, children's institutions, etc.) in order to prevent the spread of a number of diseases.

- 5. Immunoprophylaxis of various population groups.
- 6. Clinical examination of the population in order to identify the risks of developing chronic somatic diseases and the improvement of individuals and contingents under the influence of adverse factors, using medical and non-medical measures.

### Basic principles of primary prevention:

- 1) the continuity of preventive measures (throughout life, starting in the antenatal priode);
  - 2) the differentiated nature of preventive measures;
  - 3) mass prophylaxis;
  - 4) the scientific nature of prevention;
- 5) the complexity of preventive measures (participation in the prevention of medical institutions, authorities, public organizations, and the public).

Primary prevention, depending on the nature of the facility, also provides for two strategies: population and individual (for high-risk groups), which often complement each other [5,9,12,16].

With a population strategy, the goal of prevention is achieved by solving the problem of reducing the average risk of disease development (hypercholesterolemia or blood pressure, etc.) by conducting activities that cover the entire population or a large part [1,4,18,23].

An individual strategy solves another problem – reducing high risk in people assigned to «risk groups» according to one or another epidemiological criteria (gender, age, exposure to a specific factor, etc.).

Secondary prevention is a complex of medical, social, sanitary-hygienic, psychological and other measures aimed at the early detection and prevention of exacerbations, complications and chronic diseases, disabilities that cause disadaptation of patients in society, reduced working capacity, including disability and premature mortality.

Secondary prophylaxis is applicable only to those diseases that can be identified and treated in the early period of development, which helps prevent the transition of the disease to a more dangerous stage. By early detection of patients on the basis of screening tests (mammography, electrocardiogram, etc.) and their treatment, the main goal of the secondary prevention is achieved – the prevention of undesirable outcomes of diseases (death, disability, chronicity, cancer transition to the invasive stage).

#### **Secondary prevention includes:**

- 1. Targeted sanitary-hygienic education, including individual and group counseling, training of patients and members of their families with knowledge and skills related to a specific disease or a group of diseases.
- 2. Conducting medical examinations in order to assess the dynamics of the health state, the development of diseases to determine and conduct appropriate recreational and therapeutic measures.
- 3. Conducting preventive treatment courses and Клінічна та експериментальна патологія. 2020. Т.19, №1(71)

targeted rehabilitation, including therapeutic nutrition, physiotherapy exercises, medical massage and other therapeutic and prophylactic methods of rehabilitation, spa treatment.

- 4. Conducting medical and psychological adaptation to changing situations in a state of health, forming the correct perception and attitude to the changed capabilities and needs of the body.
- 5. Carrying out activities of the state, economic, medical and social nature, aimed at reducing the level of influence of modifiable risk factors, maintaining residual disability and the ability to adapt in the social environment, creating conditions for optimal maintenance of the vital activity of patients.

# The effectiveness of secondary prevention is determined by a number of circumstances:

- 1. How often does the disease occur in the population in the preclinical stage?
- 2. Is the length of the period between the appearance of the first signs and the development of a pronounced disease known?
- 3. Does the diagnostic test have a high sensitivity and specificity for this disease and is it simple, inexpensive, safe and acceptable?
- 4. Does clinical medicine have adequate medical means for diagnosing this disease, effective, safe and affordable methods of treatment?
  - 5. Is the necessary medical equipment available?

**Tertiary prevention** – rehabilitation (synonymous with health restoration) – a set of medical, psychological, pedagogical, social measures aimed at eliminating or compensating for life limitations, lost functions with the aim of the most complete restoration of social and professional status, prevention of relapse and chronic disease.

The goal of tertiary prevention is to slow down the development of complications in case of an already existing disease. Its task is to prevent physical insufficiency and disability, to minimize the suffering caused by the loss of full health, and to help patients in adaptation to incurable conditions. In many cases, in clinical medicine, it is difficult to distinguish between tertiary prophylaxis, treatment and rehabilitation.

### **Tertiary prevention includes:**

- 1. Teaching patients and their families the knowledge and skills associated with a particular disease or group of diseases.
- 2. Clinical examination of patients with chronic diseases and persons with disabilities, including clinical medical examinations with the aim of assessing the dynamics of the state of health and the course of diseases, the implementation of permanent monitoring of them and adequate medical and rehabilitation measures.
- 3. Conducting medical and psychological adaptation to changing situations in a state of health, forming the correct perception and attitude towards the changed capabilities and needs of the body.
- 4. Carrying out activities of the state, economic, medical and social nature, aimed at reducing the level of influence of modifiable risk factors.
- 5. Preservation of residual disability and the possibility of adaptation in social delirium.

6. Creation of conditions for optimal life support for sick and disabled people (for example, the production of medical nutrition, the implementation of architectural and planning decisions, the creation of appropriate conditions for people with disabilities, etc.).

#### Types of medical preventive measures:

-preventive counseling of individuals – health education;

-preventive counseling of population groups – health education;

-preventive medical examinations in order to identify early forms of diseases and risk factors and conduct recreational activities:

-immunization; vaccine prophylaxis;

-clinical examination – medical observation and rehabilitation:

- preventive health-improving measures – occupations with various types of physical culture, sanatorium-resort rehabilitation, physiotherapeutic medical measures, massage, etc.

One of the most important problems facing the practical healthcare in strengthening preventive activities, improving its quality, effectiveness and efficiency is the development of new ones and adaptation to modern requirements and working conditions of modern organizational, information and preventive technologies [3,6,15,16,20].

#### Quality criteria for preventive care

Availability and accessibility of the required type of preventive medical services. The criterion is the list and completeness of preventive medical services of the institution (unit, specialist, etc.).

Adequacy of measures, technologies and resources used to the goals of health promotion and prevention. The criterion is the conformity of preventive measures, services, technologies and resources used to the goals of health promotion and prevention in the activities of a medical institution (unit, specialists, etc.) [10,17, 21,24].

Continuity and succession of the process of patients' healing in the healthcare system. The criterion is a model of preventive activity of a medical institution that provides interaction and coordination.

The effectiveness and power of the applied preventive medical intervention on improving the health indicators of groups of people and the population as a whole based on scientific evidence. The criterion is the introduction (application) of evidence-based preventive medical methods, approaches, technologies [2,5,10,19].

The effectiveness of preventive medical intervention in relation to improving the health indicators of certain groups of individuals and the general population in practice. The criterion is the dynamics of health indicators when applying effective methods of prevention in practical conditions.

The effectiveness of the applied preventive medical intervention in relation to the selected criterion. The criterion is the compliance of the result of medical preventive care with the chosen criterion of medical, social, economic efficiency.

The ability to meet the needs of patients, the population and correspond to the real possibilities of ISSN 1727-4338 https://www.bsmu.edu.ua

implementation. The criterion is the conformity of forms, methods, technologies, accessibility and other characteristics of preventive medical care, needs, patient attitudes and the general population [9,18,22,25].

#### Conclusion

Today, scientists and practitioners have proven that individual preventive measures can affect a limited number of problem factors. It is advisable to organize preventive work only in the form of separate, unrelated activities when the causes of the problem are superficial, not related to the worldview and lifestyle of the target group, and their elimination does not require significant changes in the social environment.

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